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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,433	04/27/2006	Shinje Kim	1012679-000120	2079
21839 7590 09/09/2010 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER IBRAHIM, MEDINA AHMED	
			ART UNIT 1638	PAPER NUMBER
			NOTIFICATION DATE 09/09/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/577,433	Applicant(s) KIM ET AL.	
	Examiner Medina A. Ibrahim	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 and 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 4-10 is/are allowed.
- 6) ☒ Claim(s) 2, 3 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/27/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-3, 5-10, and 15-16, in the reply filed on 07/26/10 is acknowledged. Claims 4 and 14 are rejoined with the elected group. The requirement is made Final

Claims 1-17 are pending.

Claims 11-13 and 17 are withdrawn from consideration as being directed to the non-elected invention.

Claims 1-10, and 14-16 are examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Staskawicz et al (US 6,262, 343; Accession no AAF633301; deposited 02 May 2001).

The claim is directed to a primer for the detection of cucumber mosaic virus resistant plants which comprises consecutive nucleotides of SEQ ID NO: 2 or 22.

Staskawicz et al teach an isolated nucleotide comprising 18 contiguous bases of SEQ ID NO: 22 (see alignment of sequences shown below). The intended use of the claimed invention must result in a structural difference between the claimed invention

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and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The cited reference teaches that the Bs2 nucleic acid molecule, which a disease resistance gene, is also useful as polymerase chain reaction (PCR) primers.

RESULT 2

AAF63301/c

ID AAF63301 standard; DNA; 31491 BP.

XX

AC AAF63301;

XX

DT 02-MAY-2001 (first entry)

XX

DE Pepper Bs2 resistance gene.

XX

KW Bs2; pepper; pathogen resistant; *Xanthomonas campestris* pv *vesicatoria*;

KW Xcv; bacterial spot disease; transgenic plant; crop; fruit; flower; ds.

XX

OS Capsicum annum.

XX

PN US 6262343.

XX

PI Staskawicz BJ, Dahlbeck D, Tai TH;

XX

DR WPI; 2001-168560/17.

DR P-PSDB; AAB72198.

Query Match 21.2%; Score 1186.2; DB 1; Length 31491;
Best Local Similarity 66.9%;
Matches 1827; Conservative 0; Mismatches 878; Indels 24; Gaps 9;

QY 308 CTTGATAAGGGTTTGATCCACCCTAGTATTTCTCTGTAGGGTGCTCCTCTGCTATTTATT
367 ||||| | ||||| ||||| | ||||| || ||||| |
Db 24388 CTAGACAAAGGTTTTATTTCGTCTACTGTTTCCCCATGGGGTACACCCGTGCTCTTCGTG
24329

Qy 368 TGT TAGAAAGATGGTTCCCTTTAGATGTGTATAGATTATCGCTAGTTGAATAAGGTGACT
427 | ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 24328 CGAAAGAAGGATGGGTCCCTTCGGATGTGCATAGACTACCGTCAGTTGAATAAGATCATG
24269

Qy 428 ATGAAGAAAAAGTACCCTCTCCCTAAGATTGATGATTTATTCATCCAGCTTCAGGGTGCA
487 |||||
Db 24268 ATTAAAATAAATATCCTCTTCCTAGGATTGATGACCTTTTTGACCAGCTTCAGGGTGCT
24209

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Qy 488 AAGTACTTTTCTAAAATTAATCTCTGTAAAGGTTATTATTAGTTGAAAATTAGGGATGTG
547 |||| |||| |||| | || || |||| || |||| |||| |||| ||||
Db 24208 AAGTGCTTTTCAAAAATAGACCTTCGTTCCGGTTACCATCAGTTGAAAATTAGGGAGTCA
24149

Qy 548 GATATCCCTAAGGCTACTTTTCAAACCCAGTGTGGTCATTATGAGTTTTTGGTGATGTCC
607 || || || || | | || | |||| | |||| || | |||| || |||| ||
Db 24148 GACATACCCAAGACAGCCTTCCGAACCCGATATGGTCACTACAAATTTTGTATCATGTCC
24089

Qy 608 TATGGTTTGACTAATGCTCCGGTGGCAATCAAGGATCTTATGAACATAGTATTCTGTAG
667 | || |||| || | || | || |||| |||| || || || || || |
Db 24088 TTCGGGTTGAGTAACGCCCTGCAGCCTTCATGGATCTTATGAGTAGAGTGTTCCGTCAA
24029

Qy 668 TTCCTGGATTTATTTGTTATTGTGTTAATAGATGATATTTTGGTATATTCTAAGAGCGAG
727 || | || || || || |||| || || || || || || || || || ||
Db 24028 TTTATTGACTTGTTTCGTCATTGTATTTATTGATAATATTCTGATCTATTCTAAGAGTAA
23969

Qy 728 GCTGATCACGCCGATCATCTCCATATAGTATTGCAAACTTTTAAAGATCAACTGTTGTAC
787 | |||| || |||| || || || || || || || || || || || ||
Db 23968 GAGGATCACACCAATCACCTCCGAATTATCCTTCAGACCCTTAAGGATTATCAACTATAT
23909

Qy 788 **GCCAAATTTTCTAAGTGTGAATTATGGTTGAATGTGGTGACCTTCCTTGGTTATATTATT**
847 |||| |||| |||| || || || || || || || || || || || ||
Db **23908 GCCAAATTTTCTAAGTGTAATTTCTGGTTATACGCTATTGACTTCCTGGGGCATATTGTG**
23849

Qy 848 TCTAGTGAGGGGATTATGGTGGATCCACAAAATTTTATGCGGTGAAGAAGTGGCCTAAA
907 || |||| || || | |||| || || || || || || || || || ||
Db 23848 TCCAGTGACGGAATAAGAGTGGATCCCTAGAAAGTTGAAGTAGTGAGAAAAGGCCTAGA
23789

Qy 908 ACCATGATTCCAACCAATATTTAGAG-TTTTTGGGTTTAGTTAGATATTATAGGAGGTTT
966 ||| || |||| |||| || || |||| || || || || || || ||
Db 23788 CCCACGACTCCAACCGATATTTGAAGCTTTTGGGTTTGGCGGGGTATTACAGAAGGTTT
23729

Qy 967 GTGGAGAGTTTCTCATCAATTGATGCTCTATTTATTAAGTTAACTCAGAAAAAAGGTATG
1026 || || |||| || || || | || || || || || || || || || ||
Db 23728 GTAGAAAGTTTTTCTTCCATAGCTTCTCCGCTTACTAACTGACTCA-AAAAAGATGAA
23670

Qy 1027 GTTTCTATGGTCCAATGCTTGTCAGGGTAGCTTTGATAAGTTGAAGGATAAGTTGACTTT
1086 |||| |||| | || | || |||| || |||| || || || || ||
Db 23669 GTTTGAGTGGTCTGACTTGTTGTGAAAACAGTTTTGAGAAATTGAAGGACAAGCTGGCTAC
23610

Qy 1087 GGATATGATCTTGACCCTACCCGAAGGTTTTAATGTTTTT----TTAATTTTGATGCATC
1142 | | | | |||| |||| || | || |||| || || || || || ||

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Db 23609 TGCTCTTGTTTTGACCCTTCCCGAGGGTGTAGATAATTTTGTGGTTTATTGTGATGTGTC
23550

Qy 1143 CCGTGTAGGACTTGGTTGTGTTTTGATGTAGAAACAATAGGGTTCTGGCCTATGCTTCTA
1202 ||||| |||||||||||||||| ||||| || ||||| |||||

Db 23549 CCGTATGGGACTTGGTTGTGTATTGATGAAG-CGTGGTAAGGTGATAGCTTATGCATCTA
23491

Qy 1203 GGAAATTGAAAGTTTCATGAAATGAATTATGCGACACATAACTTAGAATTATTAGTTGTGG
1262 | | | | | | | | | | | | | | | | | | | | | |

Db 23490 GGCAGTTAAAGGTGCATGAGTGCGATTACCCCTACTCATGACTTGGAGTTAGCAGCCGTGG
23431

QY 1263 TATTTTCATTGAAGCTTAGGTATCGTTATTTGTATGG-GTTCATGTTGATATATGTTTTG
1321

Db 23430 TGTTTGTACTTAGAATCTGGAGGCACTATCTCTATGGAGTGCATGTTGATATTTATACTG
23371

QY 1322 ATCATAAGATTCTGTAGTATGTGTTCAACCAGAAGGAGTTGAATCTCAGGCCAAAGGACAT
1381 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Db 23370 ACCATAAGAGTTTACAGTATGTTTTCTCACAGAAAGAATTAAACCTTAGGCAGAGGCGTT
23311

QY 1382 GGCTTGAGTTTCTCAAAGGCTATGACATTAGTCTCCATTACAACCCAGGTAAATCTAACA
1441

Db 23310 GGATAGAGCTTTTGAAAGACTATGATATGAGTCTGCATTACCATCCGGGCAAGGCAAATA
23251

QY 1442 TGGTTGTTGGTATTCTTAGTAGGTTGTCCATGGGAAGATTATAAAAATATGGATGAGGAAA
1501

Db 23250 TTGTAGCCGACGCCCTCAGTAGGTTTTCTATGGGCAGCCTTTCTTATGTAGAAGAAGGAA
23191

QY 1502 AATGAGATTTGGTGAAGTATATTACCGATTTGGTAACCTTGAGATTCGTCTTTTGGATT
1561 | | | | | | | | | | | | |

Db 23190 AGAAAGAGATGGTGAAGGATATTCACCGCCTTGCAAATATGGGAGTGCGACTCTTAGATT
23131

QY 1562 CTGAGGATGGAGGTATGGTTGTTCAAGAGGTGGTGAAGTCATCTCTTAGTGTTGAAGTAA
1621 | | | | | | | | | | | | | | | | | | | | |

Db 23130 CCGAAGATGGAGGGGTGATTGTTTCATGAGTTAGCTAAGTCATCTCTTTGTGCTGAAGTTA
23071

Qy 1622 AAGCGAAACATGTCTTGGATCCTATCTTAATGCAAATCAAAGATGATGTGGGTCAACAGA
1681 | | | | | | | | | | | | | | | | | |

Db 23070 AGGAGAAGCAGGTTGAAGATCCCATCTTGATGAAAATCAAGAAAGATGTGGGTCAACAAA
23011

Qy 1682 AGGTTATGGCCTTCAAGATTGGTAGTAATGGTATTTTAAGGTACCAAGGTAGATTGTGTG
1741 | | | | | | | | | | | | | | | | | | | | | |

Db 23010 TGGTTATGTCATTTGAAATTAGTGGCGATAGTATTCTGAGATTTCAGGGTAGGTTGTGCG
22951

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Qy 1742 TTACCGATGTTAATGGGTTATGAGAATGAATTTTGGTTGAAGCTCATGAGTCGTGATTTA
1801 | | | | | | | | | | | | | | | | | | | | | |
Db 22950 TTTCGAATGTCGATGGGATACGAGAAAGAATCCTTAATGAGGCGCACACTTTGAGGTATG
22891

Qy 1802 TGGCTCATCTTGGTTTGACGAAGATGTACCATGATTCTGAAGGAGATTTATTGGTTGAATA
1861 | | | | | | | | | | | | | | | | | | | | | |
Db 22890 TCATTACCCAGGCTCTACTAAGATGTACCATGATCTAAAAACCTTGTATTGGTGAATA
22831

Qy 1862 ATATGAAGAGAGATGTGGCAAATTTTGTGCTATGTTTCATGGTTTGCCAACAAGTGAAGG
1921 | | | | | | | | | | | | | | | | | | | | | |
Db 22830 ACATGAAACGTGATGTAGCTGATTTTGTGTCCAAGTGTGTTGAACTGTCAACAAATGAAGG
22771

Qy 1922 TGGGGAACCTAAGGCCTGGTG-----GATTCTATCGCTCGTGTGGAAGTGAG
1968 | | | | | | | | | | | | | | | | | | | | | |
Db 22770 TAGAACACATGAGGCCAGGTGGTACTTCCCAAGAGATAGCCCTGCCTTTATGGAAGTGGG
22711

Qy 1969 AGGTAATCAGTATGGATTTTGTGTTCCAGTCTTCCACGGTCTCGTAGTAAATTTTATTTGA
2028 | | | | | | | | | | | | | | | | | | | | | |
Db 22710 ATATGATAAACATGGACTTCATTACAGGACTTCCGAGATCCCGAAACAGTATGATTCTA
22651

Qy 2029 TTTGGGTCATCATTGATAGGATGTCTAAGTCTACTCACTTCTTGCCAGTGAGGACTAATA
2088 | | | | | | | | | | | | | | | | | | | | | |
Db 22650 TATGGGCGATTGTAGATCGGTTGACCAAGTCAGCCTACTTTTTTCTGTGAGGACTAATT
22591

Qy 2089 ATTCATGGGAGGACTACGCGAAGTTTTTTCATTAGGATATCATCAAGTTGCATGGTGCTT
2148 | | | | | | | | | | | | | | | | | | | | | |
Db 22590 ATTTGGGAGAGGTTTATTCTAAGATTTACATTGAGGAGATAGTTTCGATTGCATGGGGCAC
22531

Qy 2149 TAGTTTCTATTATATCTGATCGAGGACTCAGTTCTCGTCTAACTTTTAGTGATTATTTT
2208 | | | | | | | | | | | | | | | | | | | | | |
Db 22530 CAATGTCTATTATATCCGATAGAGGTACGCAGTTTTTCATCTCAGTTTGGAGATCCTTTC
22471

Qy 2209 ATGTAGGTTTGGGGACTAAGGTGAACCCTATTACCATTTTCCACCCACAGAAAGATGTAC
2268 | | | | | | | | | | | | | | | | | | | | | |
Db 22470 AGAAGGGTTTAGGTACACAAGTGAATTTGAGCACAGGTTTCCACCCTCAGACGGATGGAC
22411

Qy 2269 AAGCAGAGAGGACTATTTCAGACTTTGGATAGTATGCTAAAGGTATTTGTGATTAACTTTT
2328 | | | | | | | | | | | | | | | | | | | | | |
Db 22410 AAGCTGAGCGTACCATTTCAGACCCTCGAAGATATGTTTAGGGCATGCGTAATTGATTTC
22351

Qy 2329 GTGGTATTTGGGTTTACCATATGCCTCTCTTACTGTTTGTGTATAATAACAACACTATTATT
2388 | | | | | | | | | | | | | | | | | | | | | |
Db 22350 AAGGTAGTTGGGTAGATCACCTGCCACTGGTTGAATTCGCTTACAATAATAACTACCATG
22291

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Qy 2389 CTAGCATTCAGAT-GCCCCGTTTGAGGCTTTGGATGGTAGGAGATGTCGTTCTCCTATTG
2447 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 22290 CCAGCATCAAGATGGCTCCTTTTGAGGCTTTGTATTGGAGGAGATATAGGTCTCCGATAG
22231

Qy 2448 GGTGGTTCAAATTTGGTAAGACTAGATTGGTCAGCCTGGACTTTGTTTCATGAAGCTATAG
2507 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 22230 GATGGTATGAAGTGGGTGAGACTCAGTTGTATGGGCCTAATCTTGTTTCATAAGGCGATGG
22171

Qy 2508 ATAAGGTGAAGGTGATTAGGGATATTCTTAATACCACCCAATGTCACCAAAATTCCTATG
2567 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 22170 AGAAAGTGAAATCATTAGAGA-CGAGTCAAGACTGCTCAAAGTCGTTAGATGTCCTATG
22112

Qy 2568 TAGACGTGAGGCAAAGAGAGTTAGAGTTTGATGTTGGCAATTAGGTGCTCTTGAAAATAT
2627 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 22111 CCGATGTTTCGGAGAAGAGAACTAGAGTTTGAAATTGGTGATTGGGTGTTTCTCAAGGTTT
22052

Qy 2628 CCCCCATGAAGGATGTGATATGATTTGGGAAGAAGCGGAAGCTCAGTCCTCGTTATGTTT
2687 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 22051 CTCCTATGAAAGGAGTTATGCGATTTGGAAAAAGGGTAAATTGAGCCCTCGTTAT-TAG
21993

Qy 2688 GCTCGTACTTGAACCTTAGGAGAGTGGGTTATGTTGTTTATGATTTGGATTTGCCTCGTA
2747 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21992 GGCCATATCAGATTTTGAAGAAGATTGGTACAGTTGCATATGAGTTAGAATTGCCTGCAA
21933

Qy 2748 GTTTGGGTTCCATTACCTGGAGTTCCACGTGTTGATGTTGAAGAAGTGCATGGGTGATC
2807 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21932 GTTTGGGTTCCGTTTCATCCGGTATTCCATGTATCTACGTTGAAGAAATGCATTGGAGATC
21873

Qy 2808 CTTCTTGATTGTCCTTTTGGGGAGTGGTGGTATTTTCATATTCCTTGTCTTATGAGGTAT
2867 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21872 ATTCTACGGTATTGCCAGTAGAGGGTATCAAAGTGACAGACTGCTTGTCTTACGAAGAAG
21813

Qy 2868 TCCTGATTGAGATTTTGGATAGGAAAGTCTATCATTTGAGGAATAAGGATGTGGCTTCGA
2927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21812 AGCCCGTTGAAATTTTAGATCGCCAAGTTCGAAAGCTGAGGAGCAAAGAGATAGCCTCAG
21753

Qy 2928 TGAATGTTCTATTGAGGAATCATAAGGTTGAAGAAGCTACTTGGGAAGCTAAAGAGGACA
2987 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21752 TAAAGGTACTGTGGAGGAATCAAAAAGTCGAAGAAGCAACTTGGGAGTCAGAATATGACA
21693

Qy 2988 TGAAGTCCAAATATCCATTCTTGTTCCCT 3016
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 21692 TGAGAATTAGATATCCCAATTTGTTTGCT 21664

Claim Rejections - 35 USC § 102

Claims 2-3 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Olek et al (WO 200177384; published October 18, 2001).

The claims are directed to a primer for the detection of cucumber mosaic virus resistant plants which comprises consecutive nucleotides of SEQ ID NO: 2 or 22, said primer contains SEQ ID NO: 1, and a kit containing said primer.

Olek et al teach an oligonucleotide designated as SEQ ID NO: 52575 that contains Applicant's SEQ ID NO:1 (see alignment of sequences below) and a kit containing said oligonucleotide. Therefore, Olek et al teach all claim limitations.

```
RESULT 10
ABC52558/c
ID   ABC52558 standard; DNA; 13 BP.
XX
AC   ABC52558;
XX
DT   21-FEB-2002   (first entry)
XX
DE   Oligonucleotide SEQ ID NO 52575 for detecting SNP TSC0014584.
PI   Olek A, Piepenbrock C, Berlin K;
SQ   Sequence 13 BP; 3 A; 3 C; 5 G; 2 T; 0 U; 0 Other;

      Query Match          100.0%;  Score 10;  DB 1;  Length 13;
      Best Local Similarity 100.0%;
      Matches 10;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps
0;

Qy          1  GTCCCGACGA 10
              |||||
Db          12  GTCCCGACGA 3
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Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by
Molyneux, Mitchell (US 6,337,071)

The claim is directed to a primer comprising consecutive nucleotides of SEQ ID
NO: 2 or 22, wherein the primer has SEQ ID NO: 1.

Molyneux teaches a primer that is 100% identical to Applicant's SEQ ID NO: 1.

See alignment of sequences shown below.

```

RESULT 1
AR181979
LOCUS      AR181979                10 bp      DNA      linear      PAT 20-APR-
2002
DEFINITION Sequence 8 from patent US 6337071.
ACCESSION  AR181979
VERSION    AR181979.1  GI:20224895
KEYWORDS   .
SOURCE     Unknown.
  ORGANISM Unknown.
            Unclassified.
REFERENCE  1  (bases 1 to 10)
  AUTHORS  Molyneux, W.Mitchell.
  TITLE    Mosquito and/or flea control
  JOURNAL   Patent: US 6337071-A 8 08-JAN-2002;
FEATURES   Location/Qualifiers
    source          1..10
                   /organism="unknown"
                   /mol_type="unassigned DNA"
ORIGIN

    Query Match          100.0%;  Score 10;  DB 9;  Length 10;
    Best Local Similarity 100.0%;
    Matches  10;  Conservative  0;  Mismatches  0;  Indels  0;  Gaps
0;

QY          1  GTCCCGACGA 10
            |||||
Db          1  GTCCCGACGA 10

```

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of detecting a CMV-resistant plant using SEQ ID NO: 2 or 22, does not reasonably provide enablement for a method of detecting a CMV resistant plant using any consecutive nucleotide sequence of SEQ ID NO: 2 or 22. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or the invention commensurate in scope with these claims.

The claims are drawn to a method for detecting a CMV resistant plant or determining the genotype of a CMV resistant plant by analyzing the genomic DNA of a plant in the presence of a consecutive nucleotide sequence of SEQ ID NO: 2 or 22.

The specification provides guidance for the identification of an OPC-07 primer which showed specificity only to CMV resistant plants from a pool of F2 CMV resistant and susceptible plants (Figures 2a and 2b) and cloning and determination of nucleotide sequence of SEQ ID NO: 2 or 22 using SEQ ID NO: 1 and constructing the primers of SEQ ID NO: 23-28 from said nucleotide sequences. The specification also teaches analysis of the genomic DNA extracted from a CMV resistant plant, susceptible plant, and their F2 population used a template for PCR with the primer combination SEQ ID

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NO: 23 and 24, SEQ ID NO: 23 and 25, and SEQ ID NO: 23 and 26, respectively to examine plant genotype (Examples 1-8; Table 2).

The specification, however, does not provide guidance for a method that employs any consecutive nucleotide sequence of any size capable of detecting a CMV resistant plant or capable of determining the genotype of a CMV resistant plant. The specification teaches that a combination of primers SEQ ID NO: 23 and 24, SEQ ID NO: 23 and 25, and SEQ ID NO: 23 and 26, is required in order to examine a CMV resistant plant genotype. The specification does not teach that a single exemplified or non-exemplified primer is sufficient to detect CMV resistance plant or to determine the genotype of a CMV resistant plant. The claims provide no more than an invitation to experiment a single primer of any size from the 5.0 Kb sequence of SEQ ID NO: 22 to see if it works in any plant species. This experimentation is considered excessive and undue, absent evidence to the contrary.

Sequence search results from the primers of the claims shows that the primers are not specific to CMV resistance. For example, SEQ ID NO: 28 is identical to a sequence from human genomic DNA containing a SNP SEQ ID NO: 11973 (see the alignment of sequences below. See, for example, Bharti,A.K et al who teach a nucleotide sequence (Accession no CG834049) that has Applicant's SEQ ID NO: 28 and would not detect a CMV resistant plant. Therefore, it is highly unpredictable that the use of any single primer that has a consecutive nucleotide sequence of SEQ ID NO: 22, wherein the primer is any of SEQ ID NO: 1 and 23-28 would detect a CMV resistant plant or determine the genotype of a CMV resistant plant. Therefore, given this lack of

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unpredictability, the limited guidance and working examples in the specification, the state of the prior art as evidenced by Bharti et al and nature of the invention, one skilled in the art would have to proceed with undue trial and error experimentation to screen through the 5.2 Kb sequence of SEQ ID NO: 22 to identify those consecutive nucleotides of any length that are capable of identifying a CMV resistant plant and its genotype.

See, *Genentech Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366, 42 USPQ2d 1001, 1005 (Fed. Cir. 1997) which states It is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement". The Genentech court also held that [w]hile every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention". *Id.* In this case, as in *Genentech*, the specification does not provide the "reasonable detail to enable members of the public to understand and carry out the invention as broadly claimed".

Therefore, for all reasons discussed above the claimed invention is not enabled throughout the broad scope.

RESULT 3
CG834049

LOCUS	CG834049	295 bp	DNA	linear	GSS 12-NOV-2003
DEFINITION	ZMMBBc0140J06f ZMMBBc (EcoRI) Zea mays subsp. mays genomic clone ZMMBBc0140J06 5', genomic survey sequence.				
ACCESSION	CG834049				

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VERSION CG834049.1 GI:38298448
KEYWORDS GSS.
SOURCE Zea mays subsp. mays (maize)

REFERENCE 1 (bases 1 to 295)
AUTHORS **Bharti,A.K.**, Young,S., Kavchok,S., Keizer,G., Bronzino,A.C.,

ORIGIN

Query Match 100.0%; Score 15; DB 22; Length 295;
Best Local Similarity 100.0%;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps
0;

Qy 1 GGGAGTTTCATCAGC 15
| | | | | | | | | | | | | | | |
Db 81 GGGAGTTTCATCAGC 95

Remarks

Claims 1 and 4-10 are free of the prior art of record.

Claims 1 and 4-10 are allowable.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571)272-0797. The examiner can normally be reached on M-TH 8:00 am to 5:30 PM, and every other Friday from 8:00 AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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MAI
8/30/2010

/Medina A Ibrahim/
Primary Examiner, Art Unit 1638